REMARKS

Claims 1-4 and 7-19 were rejected under 35 USC §103(a) as being obvious over U.S. patent 5,837,052 to Oates *et al.* ("Oates"). The Applicant's Representative thanks the Examiner for the courtesy of a telephone interview on December 8, 2003. In view of the remarks below, reconsideration is respectfully requested.

Claim Amendments

Claims 2, 3, 4, 13, 14, 16 and 19 have been amended to remove antecedent basis problems.

35 USC § 103(a)

Claims 1-4 and 7-19 were rejected under 35 USC §103(a) as being obvious over U.S. patent 5,837,052 to Oates *et al.* ("Oates"). In Oates, there is described a kiln assembly 10 for producing a cement clinker having pozzolanic coal ash. Cement clinker is produced in a cement kiln 14 at temperatures typically up to 1425°C. The hot cement clinker from the cement kiln 14 is discharged through clinker outlet 28 and enters cooler 16 at entry port 42 where it falls onto the cooler grate 40 which advances the hot clinker towards exit port 44.

Jets of cooling air 46 are directed through the travelling clinker bed in the cooler. It is noted that the "large volume of cooling air fed into the cooler typically has two outflow paths from the cooler, one in a generally upstream direction from the cooler into the cement kiln where it provides secondary air for the thermal processes taking place in the cement kiln; and the other in a generally downstream direction and exiting through dust collectors at the downstream end of the cooler" (see column 3, lines 39-47 of Oates).

A pozzolanic coal ash having a contaminant (e.g., carbon and/or ammonia) is introduced through port 50 into contact with the hot cement clinker in the cooler 16 and the contaminant is liberated from the coal ash at the elevated temperature in the presence of the hot cement clinker in the cooler 16. At column 6, lines 57-61 of Oates, it is stated that

> "Fine particles of flyash and/or cement clinker entrained in the air exiting discharge 48 along flow path B may be collected and returned to the cooler, for example through port 50."

Evidently, these fine particles of fly ash and/or cement clinker are collected in a dust collector as described at column 3, lines 45-47 of Oates.

The Office Action suggests that Oates teaches returning hot air from discharge point 48 to port 50 and that heat recovery is well known in this art. It is also indicated that the recovered fly ash particles in Oates may be preheated before introduction through port 50 in the cooler 16.

The Applicant's Representative cannot find any mention in Oates of heat recovery from the cooling air exiting through dust collectors at the downstream end of the cooler 16 or preheating of the recovered fly ash. Furthermore, even if one were motivated by general knowledge in the field to recover heat from the exiting cooling gases of Oates, one would be motivated to return the hot air to the hot cement kiln 14 of the Oates apparatus to lower heating costs. One would not be motivated to return hot gases to the cooler section 16 of Oates through port 50 (where the fly ash is introduced) as the recycled hot air would make the cooling process less efficient in the Oates apparatus. Therefore, one skilled in the art would not be motivated to make the modification suggested in the Office Action.

In summary, nothing in Oates teach s or suggests transferring h at from gases exiting a heating chamber to preheat a second portion of fly ash as recited in claim 1. In fact, one skilled in the art would avoid transferring heat back into the cooler section 16 of Oates (where the fly ash is introduced) as this would defeat the purpose of the cooling section. Therefore, it is respectfully submitted that independent claim 1 (and the claims that depend thereon) are patentable over U.S. patent 5,837,052 to Oates *et al.*

Conclusion

It is believed that the entire application has been placed in condition for allowance. No fees are believed to be due. However, if fees are needed, please charge them to deposit account 17-0055.

Respectfully submitted,

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